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POLICY RESEARCH WORKING PAPER

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Decentralizing Infrastructure

For Good or for Ill?

Richard Bird

Background paper for World Development Report 1994

Decentralization — or rather the realization that the optimal decisionmaking structure in the public sector is almost certainly noncentralized (polycentric) — may in principle yield a more efficient and equitable pattern of infrastructure investment and use than the overcentralized and unresponsive public sector found in many developing countries. But it will do so in practice only if it is properly implemented along the lines sketched in this paper.



Summary findings

Bird examines the many faces of infrastructure decentralization: the costs and benefits, the government structure (constraint or variable?), the "polycentric" approach, and how to make decentralization work (for whom?). He proposes basic principles and guidelines for policy design, for both small projects and large.

Broadly, these guidelines are summed up in a few propositions:

- In all countries, some critical infrastructure is provided through a decentralized political structure. Current trends make that likely to be more true in the future.
- Decentralization, however defined, in and of itself has no necessary implications for good or evil so far as infrastructure is concerned: its effects depend on the incentives various decisionmakers face.
- The key to ensuring that these incentives are conducive to "good" decisions (about design, siting, timing, finance, pricing, operation, maintenance, and use of infrastructure) is to ensure that those who made the decisions bear the financial (and political) consequences, as much as possible.
- Politically, this means that political leaders at all levels should be responsive and responsible to their constituents, and that those constituents are fully

informed about the consequences of all decisions.

Making politicians bear the consequences of their own mistakes is as close as one can get to a "hard" political budget constraint.

- Economically, it must be difficult for local residents to shift costs to nonresidents who do not receive benefits and to make local decisionmakers fully responsible to their citizens for the use they make of revenues collected from them (through local taxes), to users of infrastructure (local or otherwise) for the use made of the revenues they contribute (through user charges of various sorts), and to taxpayers in general for the use made of any transfers (or subsidized loans) they receive.

- Administratively, what such a system requires is a clear set of "framework" laws (on local budgeting, financial reporting, taxation, contracting, dispute settlement, rules to be followed in designing user charges, and so on), as well as adequate institutional support for localities to operate in this environment.

To the extent that these conditions are not met, the perverse incentives that too often exist because of the structure and finance of the public sector in many countries will probably be exacerbated by the current tendency to decentralize more and more decisions in the public sector.

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Background Paper for the 1994 World Development Report (forthcoming)

DECENTRALIZING INFRASTRUCTURE:

For good or for ill?

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Decentralizing Infrastructure: For good or for ill?

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Introduction

Investment in physical infrastructure (e.g. water, sewerage, roads, transit, power, telecommunications) has long been considered to be important for economic growth. Indeed, some of the earlier writings on economic growth, like some of the early practices of agencies dispensing foreign aid, appear simply to have assumed that investment in infrastructure was not only a necessary but almost a sufficient condition for growth. Although subsequent analysis and experience has undermined this simple belief, several recent studies have again awakened interest in the connection between public sector investment in infrastructure and private investment and economic growth.¹

Whatever the strength of the connection between infrastructure and economic growth, infrastructure investments almost invariably constitute the core of both national and regional development policy in most countries. Infrastructure investment projects, and the services they provide, are inherently located in, and serve, particular areas and customers. A road built in the middle of an uninhabited desert is not the same as a road built in a major urban area, even if the physical characteristics of the two projects - the thickness of the pavement, the width of the roadway, etc. - are identical. The productivity (in terms of growth) of an infrastructure project thus depends largely upon its environment - upon where it is located. Moreover, location also determines to a considerable extent who benefits from infrastructure investment: water supply systems with pipes that serve only the rich do not do much for the poor. The efficiency and equity of any particular investment thus depends in part - often in large part - upon its physical location. Infrastructure investment is thus invariably location- or site-specific.

Infrastructure investment is also jurisdiction-specific. In principle, there are many alternative ways in which local infrastructure may be provided (Box 1). Is the project designed, financed, regulated, operated and/or maintained by the national government? A regional government? A local government? A state enterprise or other agency reporting to any of these governments? Some sort of public-private interaction (e.g. BOT)?² How does the government or agency responsible for these different aspects of the investment finance its responsibilities? To whom is it accountable, in what sense, and how is this accountability exercised?

¹ See, notably, Aschauer (1989), and, for an application to developing countries, World Bank (1993). As a side point, it appears that most such studies assume that infrastructure is provided to the private sector free of cost: this may be an accurate depiction of reality, but it is not a particularly desirable state of affairs.

² There are many possible forms of public-private interaction in the provision of infrastructure: for a recent discussion in the context of a developed country, see Bird and Slack (1993), chap. 7, and also Kitchen (1993).

BOX 1. Alternative Ways to Provide Local Infrastructure

Public Sector Provision:

- | | |
|---------------------------------------|---|
| 1. Central Government: | (a) Department |
| | (b) Decentralized Agency |
| | (c) Enterprise |
| 2. Regional Government: | (a) Department |
| | (b) Decentralized Agency |
| | (c) Enterprise |
| 3. Local Government: | (a) Department |
| | (b) Decentralized Agency |
| | (c) Enterprise |
| 4. Central-Regional Arrangement | |
| 5. Central-Local Arrangement | |
| 6. Central-Regional-Local Arrangement | |
| 7. Regional-Local Arrangement | |
| 8. Association of Local Governments | |
| 9. Special-Purpose Local Authority: | (a) Encompassing more than one local government |
| | (b) Coterminous with a local government |
| | (c) Covering less area than a local government |

Mixed Public-Private Provision

10. BOT (Build-Operate-Transfer) Arrangements
11. Other public-private partnerships
12. Development charges, exactions, and similar schemes

Private Provision

13. Compulsory provision by developers
14. Compulsory provision by individuals: (a) Vouchers
(b) Self-financed
15. Voluntary provision: (a) Formal Arrangements
(b) Informal Arrangements
16. Provision by Non-governmental Organizations (churches, enterprises, etc.)

Even this extensive list is less than complete. Many of the arrangements listed have a number of possible variants, and of course there are various possible combinations of all these organizational structures. Moreover, different structures might apply for e.g. policy-making, regulation, financing, production (delivery of services) and so on. For example, in a particular country water policy may be established by a central government department, with a regional government agency financing the basic water supply trunk lines (although they are constructed by private contractors), and a local government enterprise distributing the water at marginal cost to consumers - who, however, are required by law to connect to the system but must finance the connection charges themselves. In poorer parts of the city, however, water may be supplied entirely by private entrepreneurs or by standpipes erected by non-governmental organizations or informal community organizations.

The answers to questions such as these may affect, sometimes dramatically, both the

net social benefit of a particular investment and the distribution of its benefits and costs. Which public infrastructure projects are built, where they are built, when they are built, and how they are operated, maintained, and utilized invariably depends largely upon the way in which the various public sector institutions involved in the process are organized and financed (Box 2).

BOX 2 Infrastructure for Whom?

From some perspectives, Bank-assisted urban infrastructure projects in Madras, India, have been a major success - in large part, it is thought, owing to the strong centralized control that was exercised over the project by the professionalized state civil service (the Indian Administrative Service). From the perspective of many local residents, however, this centralized control of urban development seems to have resulted largely in the provision of better infrastructure for the few who have and done little to improve the lives of the many who have not. Local participation in urban development decisions was weakened, and local preferences largely ignored, under the "benevolent dictatorship" of the professional elite.

Similarly, a proposed major expressway project in Karachi, Pakistan, would undoubtedly serve useful national purposes by connecting the port facilities of the city more efficiently to the national highway system. But, say opponents of the project, it would do so only by adding to the already bad level of pollution and the poor living conditions found in much of the city. A transport bottleneck would be alleviated, but much of the price would be paid by squatters and other local residents who would be adversely affected by the project.

In striking contrast, another project in Karachi - the Orangi Pilot Project - illustrates how infrastructure may be developed "from below." Over the last decade, a community development project in the Orangi district of Karachi - a crowded low-income area with no effective public services - has installed a sewerage system in much of the district, in addition to building many schools, health-care posts, and other facilities. In total, the poor residents of this district have invested a considerable sum in these facilities, including doing much of the work themselves. One result has been to lower costs: manholes for underground sewerage lines, for instance, cost 500Rs. compared to 2300Rs. in a similar, near-by UNICEF-financed project. Another, more important, result is that the infrastructure work that has been done is what the people served want. All these activities have been carried out with no support at all from any government agency. In fact, the main problem encountered by this successful example of "informal" local government has been the failure of the formal city government adequately to maintain the central sewerage system.

Sources: Stackhouse (1993a, b); Webber (1991).

That this is true is obvious to anyone familiar with the sad litany of "wasted" (unproductive) infrastructural investment in all too many countries - roads that lead nowhere, unfinished hospital and school buildings, undermaintained and deteriorating water and sewerage systems. In some countries the same message is conveyed by excessive (in both allocative and distributive terms) public investment in expensive facilities for the few - who

as a rule do not pay for them - while at the same time the many pay a large share of their small incomes for less adequate (and generally unsubsidized) versions of the same service.³ To mention only two common examples found in many developing countries: "free" university education (albeit usually in undermaintained buildings) for the few and not even primary schooling for the rest; highly-subsidized (but unreliable) supplies of piped-water and electricity for the affluent suburbs while the poor pay ten times as much for even worse service at the other end of town, often provided through the so-called "informal" sector.

Such common outcomes in many countries reflect neither inevitable fate ("the poor are always with us") nor dire necessity but rather the structure of institutional incentives to which decision-makers at all levels are reacting. Inappropriate incentives as codified in the organizational and financial structure of the public sector, largely explain why the "wrong" project seems so often to be built in the "wrong" place (often at the "wrong" time), soon to deteriorate owing to lack of adequate upkeep, while at the same time other projects that people are both willing and able to pay for do not get built - or at least not by the "official" public sector (Box 3).

BOX 3. The Informal Financing of Infrastructure

The so-called "informal" sector in developing countries has attracted a lot of attention in recent years. The potential role of the "informal public sector," however, has been much less discussed, in part perhaps because many feel that such essentially "private" activities as those usually subsumed under the "informal" heading cannot easily accommodate public-spirited or collective behavior. Such skepticism may be overdone. Box 2 provided one illustration of how a charismatic community organizer achieved a surprising amount of success in getting a low-income community in Pakistan to provide infrastructure facilities.

Similar examples have been found in Lima, Peru, where informal local community associations have financed projects such as roads and sewerage by systems of informal taxation (including, as in the Orangi Project described in Box 2, taxation in kind). The tax systems set up in Lima's poor districts for this purpose vary in detail but on the whole appear to be similar in spirit to the traditional (formal) systems found in the rural areas of some countries: how the tax burden is shared is determined by some accepted political process - village elders, or a "town meeting" - and collection is enforced by (sometimes strong) social sanctions. What de Soto (1989) calls "extralegal laws" thus help satisfy local preferences for collective goods, including small infrastructure projects, that are not met by formal governmental institutions.

How and to what extent the public sector is decentralized, and what exactly is meant by "decentralization," are thus critical factors determining the productivity of infrastructure investment in any country. What infrastructure gets built, where, when, to what

³ For various examples, see the papers in Bird and Horton (1989).

specifications, and how it is maintained and utilized, depends largely upon who is responsible for these decisions, and what "responsibility" means in this context. The next two sections briefly introduce some of the many dimensions of decentralization: what is it (many things), why do so many people advocate it (for many different and often incompatible reasons), and what are its implications for infrastructure (it depends)? The fourth section of the paper briefly sketches a framework for considering infrastructure investments in a decentralized setting and, as summarized in a brief concluding section, suggests some guiding principles for dealing with the many and diverse issues that may arise in practice. Throughout, the discussion in the body of the paper is supported by a number of "boxes" that develop a few aspects of the argument in more detail and illustrate some of the points made in the text by brief case studies.

The Many Faces of Decentralization

"Decentralization" is a slippery term. One way to pin its meaning down is to distinguish three varieties of decentralization as measured by the degree of independent decision-making exercised at the local level. Deconcentration means the dispersion of responsibilities within a central government to regional branch offices: while clearly relevant with respect to some infrastructural investments, this variety of decentralization is not further discussed here. In contrast, delegation refers to a situation in which local governments act as agents for the central government, executing certain functions on its behalf, while devolution refers to a situation in which not only implementation but also the authority to decide what is done is in the hands of local governments. How one views the effects of decentralization on infrastructure depends in part upon whether one is thinking of delegation or devolution. Unless exactly the same people face exactly the same incentives in both situations - which is hardly possible - the outcomes of the two varieties of decentralization are likely to differ sharply.

The Benefits and Costs of Decentralization

How one evaluates such differing outcomes depends both upon the nature of the investment in question and upon whether one focuses on the intrinsic or the instrumental aspects of decentralization. The literature is replete with passages praising the virtues of decentralization.⁴ Not only will it produce more efficient and equitable service delivery through making better use of local knowledge, but it will also lead to greater participation and democracy resulting in more popular consent to government and hence improved political stability. When to these good qualities are added such further ascribed virtues as increased resource mobilization and reduced strain on central finances, greater accountability, and more responsive and responsible government in general, it is not surprising that some have seen decentralization in and of itself to be intrinsically valuable.

⁴ The particular list that follows is based on the discussion in four recent internal Bank documents (on Mexico, Nigeria, Indonesia, and Venezuela, respectively) but it could be replicated many times from many sources.

Whatever the precise outcomes that may emerge from a decentralized (in the sense of devolved) system of decision-making, from one perspective such outcomes must be presumed to be satisfactory simply because the process itself is desirable. Local people may make "wrong" decisions from the perspective of the central government or of an outside observer, but if they make them, the decisions must, by definition, be assumed to be "right" for them.

From this perspective, decentralization is intrinsically good because it institutionalizes the participation of those affected by local decisions, and the results of this good process must themselves be good.

Under certain conditions, this argument is persuasive. The conditions for successful decentralization, however, are seldom sufficiently emphasized. In their absence decentralization may not only fail to improve local service delivery, but it may carry risks up to the level of national destabilization.⁵ If more expenditure responsibilities than revenue resources are decentralized, service levels will likely fall; if more revenues than expenditures are decentralized, local revenue mobilization will likely decline; even if both sides of the budget are decentralized in a balanced fashion, local governments may not have adequate administrative or technical capacity to carry out their new functions in a satisfactory fashion. These problems may be particularly marked with respect to infrastructure owing to the "large ticket" nature of many projects and the degree of technical competence required to carry them out (Box 4).

Three conditions that are particularly important for successful decentralization in this context are:

- [1] that the local decision process is fully democratic in the sense that the costs and benefits of decisions are transparent and that everyone affected has an equal opportunity to influence the decision;⁶
- [2] that the costs of local decisions are fully borne by those who make the decisions, i.e., there is no "tax exporting" and no funding at the margin from transfers from other levels of government; and
- [3] that the benefits (like the costs) do not "spill over" jurisdictional boundaries.

⁵ As experience in a number of Latin American countries has suggested, this risk is greatest when revenues are decentralized without adequate steps to ensure that local revenue mobilization is maintained and that local authorities are capable of carrying out the corresponding expenditure responsibilities. Argentina in the 1980s offers perhaps the clearest example, but others may be found in e.g. the Philippines and in many of the transitional economies of eastern and central Europe (see Bird and Wallich, 1993).

⁶ Given the inevitable imperfection of democratic institutions, and the ability of the rich and powerful to come out on top in most systems, this is obviously a counsel of perfection.

BOX 4. Decentralizing Infrastructure: The Problem of Technical Capacity

In 1987 Colombia devolved the primary responsibility for the provision of drinking water and sanitation services to local governments. The two national government agencies previously charged with providing these services to around 700 small local governments - one to small towns and one for rural areas - were disbanded and replaced by a division of the Ministry of Public Works with the functions of sectoral planning, setting and enforcing technical standards, and providing technical assistance. (These measures did not affect the 35 largest municipalities, which had their own local water and sewerage enterprises, or another 237 localities where local governments were already providing these services.)

The turnover of the facilities previously provided by national agencies proceeded at differing paces and in different ways in different areas. The regional level of government (called "department" in Colombia) played a critical role in this process. Some departments, for example Cundinamarca, not only provided some financial support but also encouraged localities to form municipal associations to jointly finance and manage programs of common interest (Box 15). Even in the case of the strongest departments, however, the local officials now responsible for water and sewerage facilities suddenly had new and critical needs for such specific technical knowledge as, for instance, the appropriate technology for the provision of drinking water in a specific area or the assessment of the likely spatial impact of a particular investment project.

These needs were met in different ways, and to different degrees, in different municipalities. In some instances, certain requirements for training or advice were contracted out to private consultants; in others, to universities. Among those whose services were utilized in different ways were the Ministry of Public Works, the Army Corps of Engineers, departmental governments and a non-profit organization specializing in water problems. As time went on, all three levels of government as well as a number of private sector parties became involved in financing, designing, and operating water and sewerage facilities in different parts of the country. In one way or another, although in no neat pattern, the previously centralized technical capacity needed to build and run these vital services seems to have been replaced at least to some extent.

Source: World Bank (1989).

When these conditions are satisfied, devolution is sensible, whether viewed instrumentally or intrinsically. When they are not, it may not be.

Even when one or more of these conditions does not hold, the delegation of implementation responsibilities to local bodies may still make instrumental sense provided that the incentives facing local decision-makers are properly structured, that is, structured to produce the results desired by the central government (in its capacity as representing the population as a whole).⁷ In the absence of the right incentive structure, however, the effects

⁷ How this may be done has been discussed extensively elsewhere e.g. Bird (1993).

of either delegation or devolution on the efficiency and equity of resource allocation may be much less beneficial than often alleged (Box 5).

BOX 5. Giving the Wrong Signals to Local Government

One reason many worry about the possible effects of decentralizing public sector activities is because of concern about the poor quality of local government administration in many developing countries. While there is often good reason for such concern, to a considerable extent a country gets the local government it wants. Local government officials, like central government officials, respond to the incentives with which they are faced. If those incentives discourage initiative and reward inefficiency and even corruption, then it should come as no surprise to find corrupt and inefficient local governments. The answer to this problem is obviously to alter the incentive structure to make it possible and attractive for honest, well-trained people to make a career in local government.

A recent Bank study has categorized the institutional setting within which many local governments in developing countries must work into three groups: (1) the over-controlled local public sector, (2) the under-controlled local public sector, and (3) the perversely regulated local public sector. The first is perhaps the most common: central governments control all the details of local government - who they hire, what they pay, where the buses run, etc. - and leave no freedom of action for local initiative. In these countries, local citizens look to the national government to fix potholes on their street - and they are right to do so.

While less common, the opposite ill of "under-control" is beginning to emerge in a number of countries as a result of inappropriate decentralization strategies. For example, a number of transitional countries in eastern and central Europe have given local governments shares in national revenues as well as responsibility for important public service functions, but without setting up an adequate institutional structure to ensure that the central funds are being properly spent in, say, maintaining minimum standards of service in education or health.

Whether over- or under-controlled, local governments in all too many countries receive perverse signals from national governments in a number of ways. In some countries, for example, the amount of national funding received depends upon the size of the local budget deficit: a perverse structure if there ever was one! In others, national funding is available for infrastructure investment at no cost but there are no funds for operation and maintenance: this common system is perverse because it pays localities not to maintain existing facilities (which they would have to do out of their own funds) in order to strengthen their apparent need for new ones (which the central government will pay for).

Source: World Bank (1993a), Bird and Wallich (1993)

Government Structure: Constraint or Variable?

To this point, it has been implicitly assumed that the structure of local government is a policy variable: that who does what, and under what rules, may be freely determined by central policy-makers. In some instances, however, the structure of public sector decision-

making is not a variable but a given. Perhaps the most important such case arises in federal states, in which two levels of government (national and state) have specific and independent powers assigned by a constitution which is not easy to change. Even apart from formal federations, however, it is often difficult to alter governmental structures quickly, particularly when, as is usually the case, the existing structure reflects historically-determined patterns of power-sharing.⁸

In such circumstances, the existing degree and pattern of decentralization in effect becomes part of the environment or context within which infrastructure decisions must be made. When, as is often the case, some of the incentives resulting from the prevailing form of decentralization are perverse, careful attention has to be paid to the extent to which those incentives may be altered at the margin without undertaking major (difficult, costly, time-consuming) constitutional (or, perhaps better in formally unitary states, "quasi-constitutional") reforms. Even within a given constitutional structure, however - even one with many "wrong" signals being given (Box 5) - there may often be a surprising amount of local discretion in both policy design and policy delivery, for good or for ill (Box 6).

Decentralizing infrastructure decisions in an efficient and effective manner may thus require very different strategies in different circumstances depending both upon why this approach is being taken - for intrinsic (because it is good) or instrumental (because it produces good results) reasons - and upon the perceived rigidity (or flexibility, as the case may be) of the formal government structure.

Many other factors must also be taken into account in assessing the likely effects of a particular form of decentralization. Each type of infrastructure investment, for instance, has its own specific characteristics (economies of scale, the identifiability and spatial concentration of beneficiaries, etc.) that may affect the desirable degree and nature of decentralization at each stage of the process - design, finance, construction, operation, maintenance, and utilization. Moreover, since, as was emphasized earlier, infrastructure investment is inevitably location-specific, the local environment may differ in many relevant ways: rural vs. urban; large metropolitan vs. small city; the relative importance of formal and informal markets; historical and political background; and so on. The potential uses, effects, and limitations of different varieties of decentralization inevitably differ in response to these, and other, factors. It is thus singularly difficult to generalize on this subject, even within a single country (Box 7), let alone across countries.

⁸ For a recent discussion of the importance of such factors, see e.g. Bird (1993a).

BOX 6. Local Policies Can Make a Difference

Even when the incentives facing local government are wrong-headed (see Box 5), a number of examples around the world show that local policies can make a real difference. A recent comparison of the provision of education in China and India, for example, found China far ahead in most respects. But one state in India, Kerala, with universal literacy among adolescent males and females and near-universal literacy among the adult population came out better than any province in China. In the words of the study: "This remarkable achievement reflects more than a hundred years of creative interaction between state commitment to, and public demand for, the widespread provision of public education" (Dreze and Saran, 1993, p. 73). Another study of state finance and poverty alleviation in India similarly found that Kerala was much more successful in this field also than either its income level or its state revenues would suggest (Rao and Das-Gupta, 1992).

Similar "anomalies" exist in many countries: in Brazil, for example, a few cities are well-run and efficiently provided with services; others, superficially similar in character and resources, are badly-run and poorly equipped. In Colombia, some departments provide superior health services than others with similar resources. Almost everywhere, some local governments in at least some areas do much better than others. The reason may be because of historical circumstance: for one reason or another they started to do something well some time ago, and they continue to do so. Or it may be because of a caring and charismatic local leader or some other chance circumstance. Whatever the cause, such experiences emphasize two important points: (1) even in the perverse situations in which many local governments are placed by inappropriate central policies, there is usually some scope for local initiative; and (2) such local initiative can make a real difference in the lives of local people. The task of decentralization is to make it easier for such "good examples" to occur and to be emulated elsewhere.

The "Polycentric" Approach

Matters may often be even more complex than this because the optimal strategy in many cases may not be "decentralization" in the sense of establishing a two- or three-level hierarchy of general-purpose governments, but rather a noncentral or "polycentric" institutional arrangement in which there is no single, ultimate center of authority but rather a number of independent bodies each exercising authority circumscribed by rules (as opposed to superior authority).⁹ The private market alone is unlikely to provide adequate infrastructure in part because the phenomenon of "free-riding" makes it impossible to realize economies of scale. Centralized provision may overcome these problems but it also often results in misplaced and misspecified investments owing to its inability to take adequately

⁹ This concept is most fully developed in Ostrom, Schroeder, and Wynne (1993), chapter 9.

BOX 7. Accommodating Local Diversity

"Local government" is a term that covers a wide range of realities in most countries. Cities of 10 million people, villages with 200 inhabitants, densely populated rural and urban areas, sparsely populated territories: all are, as a rule, organized in one form of local government or another. Some localities are rich, some are poor; some have strong local community spirit, some have none. Some are run by well-intentioned, well-trained people; others by incompetent and corrupt officials.

Unfortunately, the diversity of local government reality is seldom matched by equal diversity in central government rules governing local governments (Box 5). Even though some may manage to break out of the inappropriate mold into which they have been put (Box 6), most will not. Successful decentralization must recognize the diversity and heterogeneity of the local government universe and allow for an equally diverse and heterogeneous set of responses to particular decentralization initiatives (Box 4), up to and including accommodating "home-brewed" informal-sector solutions to particular local problems (Box 3).

One useful approach to this problem, much used in Colombia for example, is the "contract" or the making of specific agreements with different areas in accordance with their capacities and interests. Education and health are departmental responsibilities in Colombia, although most of the financing comes from the national budget. But just how these responsibilities are carried out varies widely from department to department. In the coffee-growing region, for example, the quasi-public Federation of Coffee Growers plays an important role in shaping (and financing) rural development policy in terms of building roads, schools, etc. In some of the oil-producing regions, the state oil company, Ecopetrol, plays a similar role in helping municipalities put their royalty income to good use. In some of the better-run departments, such as Antioquia and Valle, the departmental government itself takes on the major responsibility for many services. In others, such as some of the coastal provinces, the regional offices of national agencies play a more important role. Although of course there remain an enormous number of problems and deficiencies in the provision of local government infrastructure and services in Colombia, the current decentralization of some key services follows this tradition of flexibly accommodating a wide range of local conditions (Box 4) - of focusing pragmatically on what may work rather than on attempting to fit everyone into the same centrally-determined box.

Source: Bird (1984)

into account place-specific information.¹⁰ Decentralized provision intended to overcome these problems in turn has seldom succeeded and has given rise to its own problems - corruption, mismanagement, rent-seeking, and so on. Indeed, there are probably as many papers in the literature decrying the limitations of fiscal and administrative decentralization as

¹⁰ See Box 2. This argument assumes that it is more economical (requires lower transactions costs) to aggregate information on local conditions and preferences at local than at central levels of government. This proposition may be correct, although it is (so far as I know) untested, but it should be noted that it implies that such information could be gathered at the center if sufficient effort was made to do so. Moreover, if the relative costs of acquiring information at different scales change over time - as seems likely - then the comparative advantage of carrying out different activities at different levels of government will also change (as emphasized by e.g. Breton, 1989).

a solution to the problems of developing countries as there are papers propounding its virtues.¹¹

In contrast to this linear view of the possibilities - private, decentralized public, or centralized public - what may really be ideal might be, in effect, a different "government" for every relevant "public", that is, for every group affected by a common problem. In some instances, the best solution may be to leave the problem to the market; in others, to form some sort of "club", or some form of joint public-private organization; in still others to create a single-purpose jurisdiction, or to form an association of different general-purpose jurisdictions (Box 1).

Of course, the more jurisdictions there are, the higher the transactions costs will be and, all too often, the more obscure the lines of accountability. Single-purpose jurisdictions (such as water districts and school boards), for example, may be appealing on efficiency grounds in terms of providing the specific service with which they are concerned. But at the same time, they may undesirably weaken general-purpose local governments both in terms of competition for resources and reduced political accountability and hence hamper the efficient provision of other public services.¹²

When this rich palette of institutional possibilities is applied to the diverse settings already mentioned, the optimal results, although in theory presumably limited only by one's imagination, in practice will depend primarily upon three factors:

[1] the importance attached to various criteria (minimizing resource costs, economic growth, poverty alleviation, participation, etc.);

[2] the nature of the infrastructure investment (economies of scale, span of benefit, etc.); and

[3] the political, economic, and institutional environment of the country or region in question.

It is obviously not possible in a short paper to consider all of the possibly relevant combinations of these factors, so most of the following discussion will assume (1) that the major concern is to promote economic growth (with some attention, however, to poverty alleviation and participation), and (2) that there are two classes of investment (small or local

¹¹ See, for example, the introductory overview in United Nations (1991).

¹² Kitchen (1993), for example, in a recent examination of Canadian experience with special-purpose districts concludes that (1) they make government more difficult for citizens to understand; (2) they reduce the degree of control citizens have over government; (3) they reduce accountability and hence, probably, the overall efficiency of resource allocation in the public sector; and (4) they appropriate significant proportions of revenue that would otherwise accrue to local governments.

and large, as defined below). In addition, the discussion could easily be extended to accommodate two types of countries (federal and unitary) and two types of regions (urban and rural), but this is not really essential: the federal/unitary distinction has already been noted, and the urban/rural distinction may to some extent be subsumed under the small/large distinction. This simple taxonomy is more than complex enough for this preliminary look at some of the implications of decentralization for infrastructural investment.

Infrastructure For Whom?

The answer to the question in the title of this section may seem obvious: for the "people." The problem, however, is that there are often two distinct and potentially relevant groups of people - those who benefit and those who pay. Only when the two completely coincide is the answer obvious. At one extreme, those investments that benefit all national residents equally - that are truly "public goods" - and are paid for out of national taxes levied by a democratically-elected government that is fully accountable for its actions should clearly be provided by the national government.¹³ At the other extreme, when the public goods aspects of the provision (nonexcludability) and financing (user charges) of infrastructure are small, when there is little or no redistributive concern, and when the spatial clustering of beneficiaries is marked, the investment should be provided by the most efficient (least-cost) form of organization that can aggregate local preferences and collect local contributions - a voluntary club, a cooperative or non-governmental agency, a special district, a local or regional government, or some combination of the preceding, as the case may be (Box 1).

Unfortunately for analytical simplicity, most infrastructure does not fall cleanly into either of these extreme categories. Distributing water to residences and businesses may be a purely local concern, but supplying the water to the distribution system is, except in small rural communities, almost always a matter of regional concern. Similarly, maintaining the airways (air traffic control, etc.) may be a national problem, but regional and local interests are greatly concerned with the location and characteristics of airports. Even when an infrastructure activity appears to be obviously local - for example, the provision of sewerage facilities - there may be overriding concerns (e.g. public health) that in principle require higher-level governments to intervene in a regulatory or supervisory fashion.

For these reasons, the only possible answer to the question posed in the title of this section is: it depends. It depends on what infrastructure, on why it is being provided (at whose behest), on how it is being paid for, and, in some instances, on where it is located (where in the watershed or air basin the facility is located, for example).

¹³ Possible examples might be a national telecommunications satellite or the maintenance of the airways.

How to Make Decentralization Work

To the extent local people decide to carry out some activity through an organizational structure that they form or that is under their control, and they bear the full costs of their decision, they should be free, even encouraged, to do so. Of course, there may remain many potential problems even with such small groups e.g. enforcing accountability, preventing shirking, and so on (Box 8). But on the whole it is probably not misleading to say that the more decentralized the decision structure in such instances, the better the infrastructure should be from the only point of view that matters - namely, that of the local beneficiaries (and payors).

BOX 8. Enforcing Local Accountability

If decentralization is to work, those charged with providing local infrastructure and services must be accountable both to those who pay for them and to those who benefit from them. Unfortunately, enforcing accountability at the local level is not always easy. It requires not only clear incentives from above (Box 5) but also the provision of adequate information to local constituents as well as the opportunity for them to exercise some real influence or control over the service delivery system. "Informal" organizations almost by definition must be structured like this or they cannot exist (Box 3). But it can be a challenge in the political and social circumstances of many developing countries to introduce a similar degree of responsiveness into formal governmental organizations.

A recent village-level study of the provision of primary education in India and China emphasizes this problem, concluding that "the effective functioning of these services often depends crucially on combining local information (e.g. on the performance of village teachers) with a control mechanism that makes it possible to deal with observed problems" (Dreze and Saran, 1993, p.70). The information is often available to village residents; what may be missing is any way to use it. In the Indian village studied, popular complaints did not result in change because there was no way for the village to control how the state-provided school functioned. This problem would, of course, be exacerbated if different factions of village residents had different interests. In the Chinese village studied, on the other hand, the Communist Party still had effective control and to the extent its interests coincided with village interests, the latter could be influential. In neither case, however, was there really a dependable basis for ensuring either meaningful local participation or, even less, local control, whether over the operation of the village school or the decision to fix a road rather than expand water and sewerage facilities.

Sometimes such decentralization has been considered an impossible dream in poor countries owing to the lack of experience at local levels and the difficulty of figuring out who the likely beneficiaries of projects are going to be, let alone making them pay for what they get. In fact, however, in many countries it appears that even the poorest people operating informally, within the severely limited conditions open to them, can sometimes manage to provide the local public services that they want and are willing to pay for but that they cannot obtain from the established (and usually much too centralized) provision system (Box

3).¹⁴ Experience thus suggests that at least in some cases the obstacles can be overcome, at least with respect to small-scale activities.¹⁵

What is needed to get the right infrastructure for the right people in these circumstances, whether they are located in remote rural areas or metropolitan slums, is essentially to provide mechanisms by which their wishes can become reality. Three steps seem essential in this regard:

[1] to ensure that fiscal, financial and political accountability is both transparent and enforced (Box 8);¹⁶

[2] to provide a mechanism (e.g. a trusted court system) for resolving any disputes that may arise within the local service unit (or, conceivably, when there are boundary problems, between units);¹⁷ and

[3] to provide adequate technical support (e.g. access to engineering and project design and administration skills) to enable small units to carry out projects efficiently.¹⁸

None of these tasks is easy, and, as already suggested, they become even more difficult when there are significant benefit or cost spillovers or when the redistributive

¹⁴ Perhaps the most detailed account of this process at work is de Soto (1989); see also Jenkins (1988) and Ostrom, Schroeder and Wynne (1993).

¹⁵ Of course, small-scale activities may add up to be big ones: Jenkins (1988, p.20), for example, reports that small "informal" suppliers provide 93 percent of urban mass transit facilities in Lima.

¹⁶ For a more extensive discussion of accountability in general, see Paul (1991) and on fiscal accountability, see Bird (1993). See also the interesting discussion of the need to develop formal evaluation as a means of accountability in Wiesner (1993). Although Wiesner (1993) appears in part to see evaluation as an alternative to decentralization as a way of improving public sector efficiency, I would see it more as a necessary complement (Box 14). Effective decentralization depends upon improved accountability, and formal reporting and evaluation systems constitute essential components of any workable accountability system - whether to users, to local taxpayers, or to the central government, depending upon the source of financing. In Wiesner's words (1993, p.16) "the nature and source of financing is the crucial determinant of efficiency" but, as he also emphasizes (p.18), a system of independent and well-publicized assessment is required not just for accountability but also, often more importantly, to help establish a "public" to whom to be accountable.

¹⁷ All too often, a well-founded lack of trust in formal political (and judicial) institutions is one reason why community "self-help" organizations have developed to provide local public services, including infrastructure: for examples, see de Soto (1989) and Jenkins (1988).

¹⁸ Note that there is of course no presumption that small local agencies will themselves actually e.g. design water systems; the point is rather that they must have access to specialized and knowledgeable private (or public) agencies that can do so for them (Box 4). In this connection, it is of course especially important to keep the process as open and accountable as possible (see Wiesner (1993) and sources cited there).

aspects of infrastructural investment are important. Again, however, the principles of good system design are relatively obvious, and more or less identical to those in the "small" local infrastructure case just discussed. Basically, the idea is that while local residents should again finance - through user charges (Box 9) or locally-borne taxes - the costs of designing, building, operating, and maintaining facilities to the extent that they receive the benefits, regional or national governments (as the case may be) should assume the balance of the cost - that is, "their share" of the benefits spilling over. Locally, taxes, like transfers from the central government, are often earmarked for investment. As Box 10 notes, however, this common practice is usually not a good idea.

BOX 9. User-financed Infrastructure

An attractive and feasible way to finance local infrastructure in some instances is through some variant of benefit taxation. In Latin America, for example, street improvements, water supply, and other local public services have been financed by a system of taxation known as "valorization," in which the cost of the public works is allocated to affected properties in proportion to the benefits estimated to be conferred by the work in question. The valorization system has had varying success in different circumstances. Studies in Colombia, where it has been most used, suggest that critical to its success are careful planning and execution of projects, participation of beneficiaries in both planning and managing projects, an effective collection system, and, in many instances, significant initial financing of the valorization fund from general government revenues (so that works can be begun in a timely fashion, without requiring prospective beneficiaries to put up all the funds in advance). Somewhat similar lessons have emerged from experience with an alternative approach called "land readjustment" in Korea, in which large land parcels are consolidated and developed by the local government and then part of the property is returned to the original owners in proportion to their ownership, while the balance is sold by the government at market prices in order to recoup development costs. Again, careful planning and fairly sophisticated management are required for success.

These experiences demonstrate that local governments can in some circumstances develop urban infrastructure in effect by playing the role of a developer. Recently, another way in which beneficiaries may finance local infrastructure has been developed extensively in North America through the use of so-called "exactions", "lot levies", "development charges", and similar systems, under which governments impose levies on would-be property developers in proportion to the estimated costs the development will impose on the urban infrastructure. For example, if 100 new residences are to be erected, and the average cost of adding them to the urban water and sewerage system is \$100, the development charge - to be paid up front before the project is authorized - would be \$100 (or possibly some discounted equivalent). While such schemes are far from perfect, they have been increasingly used by financially-pressed urban governments to accommodate population expansion without deteriorating service levels.

Of course, all formal systems of "user-pay" infrastructure development can operate successfully only in the formal sector. To the extent development takes place primarily in the informal sector - squatter settlements and the like - less formal systems must be used if there is to be any beneficiary-related finance (Box 3).

Source: World Bank (1988); Slack and Bird (1991).

BOX 10. Earmarking: Good or Bad?

One of the most pervasive features of local government finance in developing countries is the prevalence of earmarking. In Gujarat state in India, for example, a portion of the state entertainment tax is earmarked for urban local governments, and some of this portion is in turn earmarked for investment in capital projects that are co-financed by the municipalities. In many Latin American countries, the earmarking of substantial parts of intergovernmental transfers to localities to local infrastructure investment has characterized much of the recent decentralization: this feature is found in Argentina (for housing), in Brazil, in Colombia, in Chile, in Ecuador, in Guatemala, and in Venezuela, for example. Presumably motivated by the desire to prevent local governments from "wasting" transfers on expending local payrolls, such earmarking has had the paradoxical effect of exacerbating local fiscal problems in some instances. Although not fully effective - there is usually some substitution of transfers for own-source revenues - the result has usually been to expand capital spending to some extent, while making the already difficult problem of funding operating and maintenance expenditures even more difficult.

These and many other examples of earmarking found throughout the world have relatively little to be said in their favor: they distort local preferences, exacerbate perverse incentives already found in the local finance system (Box 5), and often connect revenue sources with expenditures in totally illogical ways. For these and other reasons, earmarking has often had a very bad press, and in many instances deservedly so.

Yet there is also "good" earmarking. When there is a strong benefit link between the payment of an earmarked tax or fee and the use of the tax to finance additional expenditures, not only is the source of financing eminently sensible in equity and political terms, but it may also serve the important efficiency purpose of signalling local preferences. Well-designed earmarked benefit taxes are in effect surrogate marginal cost prices. Like such prices, when set appropriately they provide needed guidance to both efficient utilization and optimal investment decisions. Of course, in the conditions of many developing countries, this is a counsel of perfection. Nonetheless, the interdependence of pricing and investment decisions, and the potentially important role of earmarking in linking revenues and expenditures deserves careful consideration when it comes to financing local infrastructure (Box 13).

Source: Rao (1991); Campbell (1991).

Such cost-splitting may be achieved in various ways - through appropriately designed service charges to non-resident beneficiaries, individually or collectively, through matching grants (Box 11), through borrowing, possibly at subsidized rates (Box 12), or through direct higher-level assumption of certain costs.¹⁹ A common example is for the central government to make the initial investment and to require the local government to fund subsequent running costs. Experience suggests, however, that this common split is dangerous since in the absence of involvement with the investment decision local governments are all too likely to be apathetic with respect to operation and maintenance (Box

¹⁹ The less salient distributional concerns, the more reliance should be put on benefit as opposed to "ability"-based financing at the national and regional levels also, but this is a secondary issue in the present context.

13). Why should they fund the maintenance of something that all too often they did not want in the first place? - especially since, all too often, they can count on the central government to come to the rescue again if things get bad enough. As usual, what is needed is to face all relevant decision-makers with a sufficiently "hard" budget constraint. Provided accountability is again transparent (and there is an accepted dispute resolution mechanism), if the prices facing decision-makers at all levels from the individual to the national government are "right" in this sense, the results should be as good as can be achieved.

BOX 11. The Virtues and Pitfalls of Matching Grants

There is a strong theoretical argument for the use of a matching grant, in which the central government pays part of the cost of an expenditure carried out by a local government, in cases in which some of the benefits from the local activity in question spill over to other localities. The share paid by the central government - the matching rate - should be related to the size of the spillover and may perhaps also depend in part upon the financial position of the local government - i.e., by altering the matching rate in accordance with local capacities one can, in principle, stimulate similar responses in different localities. Properly designed matching grants also have the political advantage of introducing an element of local involvement, commitment, accountability, and responsibility for the aided activities. Unfortunately, while the theory of matching grants is clear, in practice the precise matching rate appropriate for particular expenditure programs is difficult to determine and hence invariably arbitrary. Although it is difficult to make this assessment, on balance it seems likely that in many cases the central government's share is set unnecessarily high.

One reason for this conclusion is because even when there are interjurisdictional spillovers, they may largely be inframarginal and of course the appropriate subsidy (matching) rate is that which applies at the margin. Another reason is that in many instances redistributive concerns, not efficiency concerns, determine matching rates: poor localities get more assistance because they are poor, not because (as suggested above) a higher matching rate is required to induce them to produce the socially optimal amount of the service in question. Intergovernmental transfers may have a role to play in distributional policy, but it is important not to confuse their distributional and allocative tasks.

Matching grants should thus be used primarily for activities in which there is a clear and significant interjurisdictional externality at the marginal level of service provision. Where such externalities affect only a few localities, a more efficient approach might be direct agreements or arrangements among the affected local governments (Box 15).

It is of course much easier to state such dicta in general terms than to prescribe precisely what should be done in any particular case to achieve efficient and equitable resource allocation, let alone to work out what is likely to be administratively and politically feasible in the circumstances of a particular investment in a particular country. In federal countries, for instance, the scope for creative institutional design may be much more

BOX 12. Local Borrowing

When the benefits from infrastructure projects are enjoyed over a period of time, it may be both fair and efficient to finance such projects in part or whole by borrowing. In any case, borrowing may often be the only practical way to finance large capital projects without large and undesirable fluctuations in local tax rates from year to year.

In most developing countries, however, local government access to capital markets is limited in practice both because capital markets themselves are little developed and because central governments are seldom keen to allow any but very restricted access by local governments. When local borrowing is permitted, it almost invariably requires central approval and is heavily restricted. As a rule, local capital finance through borrowing takes place only from government-sponsored and financed agencies such as municipal development funds. Unfortunately, the record of such agencies in most countries is poor, with many loans not being repaid and local governments having few incentives to repay.

Some transitional countries in eastern and central Europe appear to have given their newly-created local governments virtually unlimited authority to borrow from commercial banks or other sources. This is likely to prove a mistake. Unrestrained local access to credit in a situation in which financial markets are not well-regulated and local governments are desperate to expand local economic activity may result in disaster. A better alternative, despite the problems mentioned in the preceding paragraph, might be to develop more appropriate modalities for local government capital financing and borrowing, in the first instance through centrally-controlled sources. Such borrowing, however, should be on commercial terms: operating redistributive policy through loan finance is even less appropriate than through matching grants (Box 11).

Source: Bird and Wallich (1992)

restricted with respect to federal-state interaction than at the state-local level, particularly when states represent real difference in values and experiences (e.g. there are linguistic differences). Even with respect to the "simple" case of purely local infrastructure, the possibility of building on indigenous informal organizations to provide local infrastructure in an efficient and equitable fashion may be much greater in a traditional rural community than in a dynamically changing metropolitan area.²⁰

Guidelines for Policy Design

The essential framework for policy design with respect to the decentralized provision of infrastructure thus basically amounts to little more than the familiar economic dictum "Get the Prices Right." In terms perhaps more familiar in the public sector, this may be translated as "Impose a Hard Budget Constraint", i.e. face all decision-makers at the margin

²⁰ It is perhaps not entirely due to the terms of reference of the research project on which it is based that the stimulating book by Ostrom, Schroeder, and Wynne (1993) deals solely with rural areas.

BOX 13. The Recurrent Cost Problem

The developing world is clearly short of capital. But too often the capital projects that do exist are inadequately maintained. One reason for the widespread failure adequately to provide for the operation and maintenance of infrastructure is the assumption that local governments, even when - as is usually the case - not involved in the selection or execution of projects, can and will look after the subsequent costs required to keep the infrastructure operating and in good condition. Experience suggests that very often this assumption has been mistaken: not only may they not have the financial resources or technical capacity to undertake this task, but the incentives facing them do not encourage them to do so. Indeed, they are often perversely in the sense that the less a local government does to maintain its infrastructure the more likely it is to be rescued from above.

All is not despair, however. There are at least a few instances in which ingenious solutions have been found to the problem of financing the recurrent costs required to keep infrastructure in operation. A study of rural road maintenance in Indonesia, for example, found several promising paths to solution. In one instance, a private firm was willing to maintain a road it needed to get its product to the main highway. In another, a well-defined group of farmers who clearly benefited from road improvements were similarly willing to carry out routine maintenance tasks. In yet another, an appropriate solution appeared to lie in the imposition of explicit road user charges since most road users (like the firm mentioned above) were willing and able to pay for the improved service.

These examples are all of well-defined projects with clear beneficiary groups who have no good alternative. While of course not all infrastructure fits this description, many small projects do - and even some larger projects have sufficiently clear beneficiaries to make some variant of user charge financing the preferred alternative. Indeed, it is critical in initial project planning to factor in appropriate cost-recovery assumptions from the beginning - and to carry them out in practice - if the expected benefits of the project are to be realized. The usual distributional objections to user charge financing seem particularly irrelevant when the underfinancing of recurrent costs means that any redistributive objective is not being achieved in any case.

Source: "Financing" (1991).

with the responsibility of raising the funds and facing their constituents with the full (incremental) cost of the decision. The present section sets out in a little more detail some suggestions as to how the institutional framework of the public sector may be structured to help achieve this aim.

The Basic Principles

To begin with, it is clear that one size will not fit all, that is, that precisely what can and should be done in any particular case depends upon a myriad of local factors (Box 7) and cannot be prescribed from afar. Nonetheless, the basic principles to be followed in all cases are the same and may be summarized as follows:

- [1] Ensure to the extent possible that who benefits, pays;
- [2] Do so in part by making the lines of accountability (the rules, or incentives) as transparent as possible; and
- [3] Provide some enforcement mechanism to ensure that the system works as it should (Box 14).

BOX 14. Evaluation and Accountability

Accountability is the key to improved public sector performance, and information is the key to accountability. The systematic collection, analysis, and reporting of information that can be used to verify compliance with goals and to assist future decisions is thus a critical element in any decentralization program. Such information is essential both to informed public participation through the political process and to the monitoring of local activity by central agencies responsible for supervising and (usually) partially financing such activity. Unless local "publics" are made aware of what is done, how well it is done, how much it cost, and who paid for it, no local constituency for effective government can be created (Box 8). Unless central agencies monitor and evaluate local performance, there can be no assurance that functions of national importance are adequately performed once they have been decentralized.

An important accompaniment of any decentralization program is thus an improvement in national evaluation capacity. Decentralization and evaluation (e.g. cost-benefit analysis) are not substitutes; they are complements. An essential element of the "hard budget constraint" system needed to induce efficient local decisions is thus adequate central enforcement capacity in the shape of credible information-gathering and evaluation. The "carrot" of central financial support of local efforts must be accompanied by the "stick" of withdrawn support if performance is inadequate, which of course requires both some standard of adequacy and some way of knowing how performance measures up.

Two possible mechanisms for building such evaluative capacity into a decentralization program may be suggested. One is to build in "sunset" provisions into the program, i.e. to provide that (say) the newly prominent role given to local institutions in the water supply area will be subject to renewal in a number of years, provided they pass some kind of independent evaluation of their performance. Another is to use the likely need for some centrally-supported access to capital markets (Box 12) not only as a screening device to reject obviously flawed projects but also an evaluation system to build up "ratings" of local capacity.

Although precisely how these principles may be best satisfied depends, of course, upon the nature of the investment, the structure of government, and many other local factors, the following brief comments may make their application clearer.

Purely Local Projects

So far as purely local infrastructure projects are concerned, they should clearly be financed to the extent possible on benefit lines, that is, by appropriately-designed user charges where suitable and otherwise by local taxes, where "local taxes" are understood to be those borne by local residents (the presumed beneficiary group).²¹ Provided there is a responsible and accountable local political structure (Box 8), the results in terms of both the efficiency and equity aspects of infrastructural decisions should be as economically and politically good as can be hoped for. Only those projects will be built that people are willing to pay for, and when they are built they will be adequately maintained so long as people are willing to pay for it; moreover, if the correct prices are charged, the projects will be efficiently maintained and utilized.²²

Of course, this simple picture conceals many potential problems. One concerns the distributional aspect of infrastructure. Locally-desired demands for distribution may readily be accommodated through the siting of projects, their design, precisely how they are financed, etc. - but only to the extent such demands are effectively articulated through the local political structure. If that structure is captured by the better-off, as may often be the case in practice, and if there is a national concern (articulated through the presumably more heterogeneous national political structure) for a more redistributive delivery and/or financing system, the national government may attempt to satisfy that concern in a number of ways - e.g. by restricting the extent to which projects can be financed through user charges or by mandating certain service delivery patterns. Unless the national government pays for any "excess" costs its requirements place on local power-holders, however, the result of such interference will be to reduce the efficiency with which the noncentralized public sector decides on and delivers infrastructural services.

Another concern is how to ensure the transparency and accountability of local political bodies. Local authorities should not, for example, be able to "export" any of the costs of their decisions to persons to whom they are not politically accountable. Their access to taxes on businesses that trade outside their jurisdiction should therefore be restricted whenever possible.²³ Political and administrative mechanisms for public accountability - e.g. making the books open or setting up watchdog agencies of various sorts - need to be in place (see Box 14). Whenever possible, infrastructure projects should proceed only when there is a clear decision by a politically responsible body as to exactly how their construction and

²¹ For further discussion of the choice of local taxes, and of various varieties of user charges, see Bird (1993, pp. 212-14). Such recommendations are of course not uncommon in the literature: but what should perhaps be emphasized is how very seldom they have been followed in practice.

²² For examples of the links stressed in the text, see Brent (1993) and Box 13.

²³ This common recommendation, like most suggestions for increased transparency, is more honoured in the breach than the observance: all the incentives for politicians, both local and national, are to conceal what is going on. Too often, obscurity, not transparency, is the key to political success.

maintenance are to be financed. Where the projects are big enough, this requirement may call, for example, for a special voting or other approval procedure.

Finally, anyone contemplating letting small (or even large) subnational agencies make their own investment decisions in the circumstances of most developing countries must also be prepared to invest substantial resources in "backstopping" such agencies by giving them adequate access to e.g. technical skill in designing, financing, and managing the construction and operation of infrastructure (Box 4). There is no need for such aid to be provided by a specific central or regional agency, of course: local bodies can and should be encouraged to contract such assistance privately, to hire it from other, more experienced public sector agencies, or, if it is appropriate, to contract with a central or regional agency experienced in the particular field (Box 7). But they should be required to prepare projects in a professional manner, to report on their execution and operation in a transparent fashion (Box 14), and to bear the consequences (political and economic) of any mistakes they make in these respects.

It may of course be easier to enforce some of these requirements when some of the financing comes directly from a superior level of government - see below - but in general what seems required for success in this approach to decentralizing local physical infrastructure is to create four pieces of institutional infrastructure:

- [1] A local finance law that provides access to local (not non-local) revenues in sufficient quantity and that also requires regular and uniform financial reporting both to the local citizens and to independent auditing and evaluation authorities (Box 14);
- [2] A political structure that provides for adequate local financial and political accountability;
- [3] Adequate institutional infrastructure to support and develop the capacity of localities to operate in the environment sketched above.
- [4] Acceptance at the national (and international financial institution) level that what local governments (or other local actors) choose to do with their own funds is their own lookout: there should be no "Father" who either knows best or rescues Junior from the consequences of his (or her) own mistakes.

While it is unlikely that any country in the world today fully satisfies these conditions, if the general line of argument made here is accepted, it is these matters - building institutional capacity to support and operate responsive and responsible local governments, establishing adequate "rules of the game" for local finances, and ensuring that the desired degrees of local participation in local political institutions and of the political responsibility of those institutions are achieved - that require attention if political, administrative, and fiscal decentralization is to produce better and more sustainable decisions with respect to infrastructure.

"Super-Local" Projects

Even if all of the above conditions are satisfied, when the benefits of infrastructural investment spill over local boundaries, decentralized decision-making can produce the "right" results in the absence of intervention from above only in very special circumstances. If, for example, only two or three contiguous jurisdictions are involved, particularly if there is some reciprocity of benefit or cost flows, voluntary agreements may approximate to the efficient result (Box 15).²⁴ When more jurisdictions, or less clearcut reciprocal gains, are involved, however, the costs of reaching an acceptable agreement may often to outweigh the benefits from doing so. The traditional solution to this problem is to call in a "higher" level of government. But how can one obtain the benefits of doing so (i.e., taking externalities into account) without incurring the costs (i.e., imposing undesired uninformities)? The answer is, broadly, that an optimal result may, at least in principle, be achieved by designing an appropriate system of national (or regional) matching grants (Box 11) and, within this framework, allowing the non-central authorities to make the decisions.²⁵

Once again, the first requirement for successfully carrying out jurisdiction-specific investments with extrajurisdictional spillovers is to ensure that to the extent local benefits are reaped, local beneficiaries pay for them, whether through user charges or current or future local taxes. Applying the same principle to those benefits that spill over, wherever possible users (individuals or communities as the case may be) should pay for what they get, barring some overriding distributional reason - to be covered from general national revenues - as to why they should be relieved of this burden. Where this is not possible, or it would not be efficient to do so - for example, because of problems in identifying and collecting from beneficiaries - the "nonlocal" portion of the project could be financed by matching grants.

To be effective "incentive-revealing mechanisms" such grants (loans) should be designed and administered in accordance with the following principles:

[1] Recipients should be required to prepare adequate plans with respect to (a) the design of the project; (b) its subsequent operation and maintenance; and (c) its financing (including, where appropriate, pricing policy).

[2] Assuming that the qualified projects eligible exceed the available financing, priorities should be assigned in accordance with the assessment by the financing authority (which is of course responsible to its own taxpayers for the use made of

²⁴ As Box 15 suggests, voluntary agreements may also be used to subdivide local governments into relevant benefit areas.

²⁵ Of course, if the central government really wants something done (even something with purely local effects) it may either do it itself or, if it makes sense to delegate operational responsibility, it may pay the entire cost either directly or through a cost-reimbursement grant.

BOX 15. Local Government "Clubs"

Countries establish local governments in the way they do for many reasons - political, historical, geographic, and so on. The boundaries of the local governments thus created seldom coincide neatly with the benefit areas of the activities of local governments. One way to deal with interlocality benefit spillovers is through the use of matching grants (Box 11). Another is through the creation of "clubs" or associations of affected municipalities. Such associations may be voluntary or they may be orchestrated and induced by special financial assistance from higher levels of government. (Such assistance may be warranted, for example, to achieve economies of scale.) Two-tier local governments exist in many countries, with the higher tier being responsible for such services in whole or in part. But even when such formal levels do not exist, lower level localities should often be encouraged to work together when they have shared interests.

In addition to such "super-local clubs" there is also often an important role to be played by "sub-local clubs" such as community associations (Box 3). When local residents have a common interest in the provision of a particular service that is different from the interests of members of the wider community, they should, as a rule, be encouraged and facilitated in working out a solution to their common problem. The economic advantages of such community solutions are often obvious, as is the general desirability of the increased local participation in the political process that results. Of course, the interests of the formal local government structure in building up potential rivals is often rather muted. Nonetheless, whether local public services are provided by nonprofit community associations or by private development (as is increasingly the case in the US, for example, where some 150,000 "residential community associations" now operate), the need for such "sublocal" activities seems obvious both in isolated rural areas and in heterogeneous metropolitan areas - although their potential for politically fragmentation in the latter carries with it obvious risks for the development of adequate municipality-wide services.

Source: Dilger (1993)

their money) of the need for the project and of the capacity of the recipient to execute and finance it.²⁶

[3] Information asymmetry works both ways: the central government does not know what to do, the local government does not know how to do it. The granting authority (or other appropriate agency) should stand ready to provide such technical assistance as may be needed in developing investment plans, arranging financing plans, managing construction, and maintaining the facility once constructed. It may also assist localities in assessing their future infrastructure needs e.g. by helping survey the condition of existing infrastructure.

²⁶ Both need and capacity should be taken into account: for further discussion of the design of matching (and other) transfers: see Bird and Wallich (1992).

[4] In the absence of shared goals, the granting authority should also monitor and evaluate the progress of projects, requiring progress reports, perhaps making field inspections, and conducting periodic evaluations of outcomes in order to improve its procedures, assist applicants, and better assess their capacity to carry out their promises and the extent to which they are carried out (Box 14). A credible enforcement mechanism is needed to ensure that the contract explicit (or implicit) in a matching grant is carried out.

The similarity of some of these requirements to the sort of institutional support noted earlier to be essential for successful decentralization of purely local infrastructure investment decisions is, of course, not a coincidence.²⁷ The costs of monitoring intergovernmental transactions is not small and must be explicitly taken into account in designing and implementing decentralization policies.

The principles just stated apply to all intergovernmental financial assistance for specific investment projects. What they do not and cannot indicate is just how much assistance should be provided to whom for what. To make such principles operational in any particular country, a good deal of work would have to be done e.g. to identify as best as possible the proportion of the cost of particular projects that should be borne by other than local residents. In addition, since both the willingness (price-elasticity) and the ability (income-elasticity) of different communities to contribute the locally-financed proportion will vary with the nature of the project and the wealth and interests of the community, an "equalization" component may be needed even in a strictly project-oriented matching grant program, thus further complicating the design of such programs.²⁸

Conclusion

It is difficult to draw very sharp conclusions from the rather diffuse exposition of principles and examples relating infrastructure and decentralization that has been presented in this paper. On the whole, however, the moral of the story this paper tries to tell may perhaps be summed up in a few short propositions, as follows:

²⁷ At this point - or sooner - some might say: if all this effort will be needed to make decentralization work, why bother? Why not simply create a single national agency to, say, provide water or power, staff it with competent technicians, allow it to set its prices properly (providing from budgetary revenues any socially-required shortfall), and let it do the job? Not only will the danger of political interference and technical and financial mismanagement be reduced by this approach, but it is obviously much easier for an agency like the World Bank to deal with a single professional institution than with 100s or 1000s of less-qualified local agencies. This line of thought is tempting - but it is also of course precisely the slippery path of overcentralized, unresponsive decision-making from which so many countries are trying, however imperfectly, to redeem themselves by various forms of decentralization. For a detailed evaluation and critique of the "professional" approach to infrastructure provision and the ensuing ills of "functional fragmentation," see Bird (1980), pp. 28-32.

²⁸ See Feldstein (1975) and Bird and Wallich (1992).

[1] In all countries, some critical infrastructure is provided through a decentralized political structure. Moreover, current trends in many countries make it likely that this will be even more true in the future. It is therefore important to understand the relation between infrastructure and decentralization.

[2] The first thing to be understood about this relation is that decentralization, however defined, in and of itself has no necessary implications for good or evil so far as infrastructure is concerned: its effects depend upon the incentives facing the various decision-makers in the decentralized structure.

[3] The key to ensuring that these incentives are conducive to "good" decisions with respect to the design, siting, timing, finance, pricing, operation, maintenance, and utilization of infrastructure is to ensure that to the greatest extent possible those who make the decisions bear the financial (and political) consequences.

[4] Politically, what this means is that political leaders at all levels should be responsive and responsible to their constituents, and that those constituents are fully informed about the consequences of their (and their leaders') decisions. Making politicians bear the consequences of their own mistakes is as close as one can get to a "hard" political budget constraint.²⁹

[5] Economically, what is required is to make it difficult for local residents to shift costs to nonresidents who do not receive benefits and to make local decision-makers fully responsible to their citizens for the use they make of revenues collected from them (through local taxes), to users of infrastructure, local or otherwise for the use made of the revenues they contribute (through user charges of various sorts), and to taxpayers in general for the use made of any transfers (or subsidized loans) they receive.

[6] Administratively, what such a system requires is a clear set of "framework" laws (on local budgeting, financial reporting, taxation, contracting, dispute settlement, rules to be followed in designing user charges, etc.), as well as adequate institutional support for localities to operate in this environment.

It is of course much easier to lay down such general prescriptions than to satisfy them in the very diverse situations found in the real world. Nonetheless, to the extent that these conditions are not met, the perverse incentives that too often already exist owing to the structure and finance of the public sector in many countries seem all too likely to be exacerbated by the current tendency to decentralize more and more decisions in the public sector. Decentralization - or, perhaps better, the realization that the optimal decision-making structure in the public sector is almost certainly polycentric (non-centralized) in nature - may

²⁹ For further discussion, see Israel (1987) and Wiesner (1993).

in principle yield a more efficient and equitable pattern of infrastructure investment and use than the overcentralized and unresponsive public sector found in many developing countries. But it will do so in practice only if it is properly implemented, along the lines sketched here.

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